

Amendments to the Claims

The following listing of claims replaces all prior versions of the claims and all prior listings of the claims in the present application.

1-34. (canceled)

35. (new) A high-performance tyre for a motor vehicle, comprising:

a carcass; and

a tread band;

wherein the carcass comprises a crown portion and two axially opposite sides terminating in beads for mounting the tyre on a corresponding rim,

wherein the carcass comprises at least one carcass ply,

wherein the tread band is disposed on the crown portion of the carcass,

wherein the tread band comprises a pattern, comprising:

a central region;

first and second shoulder regions; and

first, second, third, and fourth circumferential grooves;

wherein the first circumferential groove divides the first shoulder region from the central region,

wherein the fourth circumferential groove divides the central region from the second shoulder region,

wherein the first shoulder region comprises first shoulder blocks, separated from each other by first transverse grooves, but joined to each other along axially inner ends of the first shoulder blocks by a first circumferential portion,

wherein the central region comprises:

a row of inner central blocks;

first and second rows of outer central blocks; and

first and second annular projections;

wherein the outer central blocks of the first row are delimited on axially opposite sides by the first and second circumferential grooves,

wherein the inner central blocks are delimited on one axial side by the second circumferential groove,

wherein the third circumferential groove separates the first and second annular projections,

wherein the outer central blocks of the second row are adjacent on one axial side to the second annular projection and are delimited, on an axially opposite side, by the fourth circumferential groove, and

wherein the second shoulder region comprises second shoulder blocks, separated from each other by second transverse grooves, but joined to each other along axially inner ends of the second shoulder blocks by a second circumferential portion.

36. (new) The tyre of claim 35, further comprising:

a circumferentially inextensible belt structure;

wherein the belt structure is interposed between the carcass and the tread band.

37. (new) The tyre of claim 36, wherein the belt structure comprises:

first and second radially superimposed belt strips;

wherein the first and second belt strips are formed of rubberized fabric incorporating metallic cords that are parallel to each other within a respective belt strip,

wherein the metallic cords of the first and second belt strips are inclined with respect to an equatorial plane of the tyre, and

wherein the metallic cords of the first belt strip cross the metallic cords of the second belt strip.

38. (new) The tyre of claim 36, wherein the belt structure comprises:

first, second, and third radially superimposed belt strips;

wherein the first and second belt strips are formed of rubberized fabric incorporating metallic cords that are parallel to each other within a respective belt strip,

wherein the metallic cords of the first and second belt strips are inclined with respect to an equatorial plane of the tyre,

wherein the metallic cords of the first belt strip cross the metallic cords of the second belt strip,

wherein the third belt strip is radially external to the first and second belt strips, and

wherein the third belt strip is formed of a plurality of circumferential cord coils disposed in axial side-by-side relationship at a substantially zero angle with respect to the equatorial plane of the tyre.

39. (new) The tyre of claim 35, wherein the outer central blocks of the first row are separated from each other by third transverse grooves.

40. (new) The tyre of claim 35, wherein the inner central blocks are separated from each other by fourth transverse grooves.

41. (new) The tyre of claim 35, wherein the outer central blocks of the second row are separated from each other by fifth transverse grooves.

42. (new) The tyre of claim 35, wherein the outer central blocks of the first row are separated from each other by third transverse grooves,

wherein the inner central blocks are separated from each other by fourth transverse grooves, and

wherein the outer central blocks of the second row are separated from each other by fifth transverse grooves.

43. (new) The tyre of claim 35, wherein a sum of widths of the first and second shoulder regions is less than or equal to 60% of an overall width of the tread band, and

wherein the width of each of the first and second shoulder regions is not less than 20% of the overall width of the tread band.

44. (new) The tyre of claim 35, wherein a lateral wall of at least one of the first and fourth circumferential grooves has a profile, in a radial plane, that is inclined more with respect to a centerline axis of the respective circumferential groove than a profile of a facing lateral wall of the respective circumferential groove.

45. (new) The tyre of claim 35, wherein a lateral wall of at least one of the first and fourth circumferential grooves is inclined at an angle between about 14° and about 24° with respect to a centerline axis of the respective circumferential groove, and

wherein a facing lateral wall of the respective circumferential groove is inclined at an angle between about 3° and about 10° with respect to the centerline axis of the respective circumferential groove.

46. (new) The tyre of claim 35, wherein the blocks in one or more of the rows of central blocks are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.

47. (new) The tyre of claim 46, wherein the bottom wall of the transverse grooves separating the blocks in the one or more of the rows of central blocks has an inclined profile decreasing towards one of the first and fourth circumferential grooves.

48. (new) The tyre of claim 35, wherein at least one of the shoulder blocks comprises a sipe that is approximately transverse with respect to an equatorial plane of the tyre.

49. (new) The tyre of claim 35, wherein the outer central blocks of the first row are approximately rhomboid-shaped.

50. (new) The tyre of claim 35, wherein the inner central blocks are approximately cusp-shaped.

51. (new) The tyre of claim 35, wherein the inner central blocks are approximately semiparabolic-shaped.

52. (new) The tyre of claim 35, further comprising:
a fifth circumferential groove;
wherein the fifth circumferential groove separates the inner central blocks and the first annular projection.

53. (new) The tyre of claim 52, wherein the fifth circumferential groove comprises a half-wave harmonic course.

54. (new) The tyre of claim 35, wherein the inner central blocks are adjacent, on an axially opposite side, to the first annular projection.

55. (new) The tyre of claim 35, wherein a first circumferential recess divides each outer central block of the first row.

56. (new) The tyre of claim 35, wherein a second circumferential recess separates the outer central blocks of the second row from the second annular projection.

57. (new) The tyre of claim 35, wherein each of the first shoulder blocks comprises a sipe that is approximately transverse with respect to an equatorial plane of the tyre.

58. (new) The tyre of claim 35, wherein each of the second shoulder blocks comprises a sipe that is approximately transverse with respect to an equatorial plane of the tyre.

59. (new) The tyre of claim 35, wherein each of the shoulder blocks comprises a sipe that is approximately transverse with respect to an equatorial plane of the tyre.

60. (new) A high-performance tyre for a motor vehicle, comprising:
a carcass; and
a tread band;
wherein the carcass comprises a crown portion and two axially opposite sides terminating in beads for mounting the tyre on a corresponding rim,
wherein the carcass comprises at least one carcass ply,
wherein the tread band is disposed on the crown portion of the carcass,

wherein the tread band comprises a pattern, comprising:

a central region;

first and second shoulder regions; and

first, second, third, and fourth circumferential grooves;

wherein the first circumferential groove divides the first shoulder region from the central region,

wherein the fourth circumferential groove divides the central region from the second shoulder region,

wherein the first shoulder region comprises first shoulder blocks, separated from each other by first transverse grooves, but joined to each other along axially inner ends of the first shoulder blocks by a first circumferential portion,

wherein the central region comprises:

first and second rows of central blocks; and

a central annular projection;

wherein the central blocks of the first row are delimited on one axial side by the first circumferential groove and are adjacent, on an axially opposite side, to the central annular projection,

wherein the second circumferential groove separates the central blocks of the first row from the central annular projection,

wherein the third circumferential groove separates the central annular projection from the central blocks of the second row,

wherein the central blocks of the second row are adjacent on one axial side to the central annular projection and are delimited, on an axially opposite side, by the fourth circumferential groove, and

wherein the second shoulder region comprises second shoulder blocks, separated from each other by second transverse grooves, but joined to each other along axially inner ends of the second shoulder blocks by a second circumferential portion.

61. (new) The tyre of claim 60, further comprising:

a circumferentially inextensible belt structure;

wherein the belt structure is interposed between the carcass and the tread band.

62. (new) The tyre of claim 61, wherein the belt structure comprises:

first and second radially superimposed belt strips;

wherein the first and second belt strips are formed of rubberized fabric incorporating metallic cords that are parallel to each other within a respective belt strip,

wherein the metallic cords of the first and second belt strips are inclined with respect to an equatorial plane of the tyre, and

wherein the metallic cords of the first belt strip cross the metallic cords of the second belt strip.

63. (new) The tyre of claim 61, wherein the belt structure comprises:

first, second, and third radially superimposed belt strips;

wherein the first and second belt strips are formed of rubberized fabric incorporating metallic cords that are parallel to each other within a respective belt strip,

wherein the metallic cords of the first and second belt strips are inclined with respect to an equatorial plane of the tyre,

wherein the metallic cords of the first belt strip cross the metallic cords of the second belt strip,

wherein the third belt strip is radially external to the first and second belt strips, and

wherein the third belt strip is formed of a plurality of circumferential cord coils disposed in axial side-by-side relationship at a substantially zero angle with respect to the equatorial plane of the tyre.

64. (new) The tyre of claim 60, wherein the central blocks of the first row are separated from each other by third transverse grooves.

65. (new) The tyre of claim 60, wherein the central blocks of the second row are separated from each other by fourth transverse grooves.

66. (new) The tyre of claim 60, wherein the central blocks of the first row are separated from each other by third transverse grooves, and

wherein the central blocks of the second row are separated from each other by fourth transverse grooves.

67. (new) The tyre of claim 60, wherein a sum of widths of the first and second shoulder regions is less than or equal to 60% of an overall width of the tread band, and

wherein the width of each of the first and second shoulder regions is not less than 20% of the overall width of the tread band.

68. (new) The tyre of claim 60, wherein a lateral wall of at least one of the first and fourth circumferential grooves has a profile, in a radial plane, that is inclined more with respect to a centerline axis of the respective circumferential groove than a profile of a facing lateral wall of the respective circumferential groove.

69. (new) The tyre of claim 60, wherein a lateral wall of at least one of the first and fourth circumferential grooves is inclined at an angle between about 14° and about 24° with respect to a centerline axis of the respective circumferential groove, and

wherein a facing lateral wall of the respective circumferential groove is inclined at an angle between about 3° and about 10° with respect to the centerline axis of the respective circumferential groove.

70. (new) The tyre of claim 60, wherein the central blocks in one or both of the rows are separated from each other by transverse grooves having a bottom wall with a shaped profile of variable depth.

71. (new) The tyre of claim 70, wherein the bottom wall of the transverse grooves separating the central blocks in the one or both of the rows has an inclined profile decreasing towards one of the first and fourth circumferential grooves.

72. (new) The tyre of claim 60, wherein at least one of the shoulder blocks comprises a sipe that is approximately transverse with respect to an equatorial plane of the tyre.

73. (new) The tyre of claim 60, wherein the central blocks in one or both of the rows are approximately cusp-shaped.

74. (new) The tyre of claim 60, wherein the central blocks in one or both of the rows are approximately semiparabolic-shaped.

75. (new) The tyre of claim 60, wherein the third and fourth circumferential grooves comprise half-wave harmonic courses.

76. (new) The tyre of claim 60, wherein a circumferential recess divides the central annular projection into first and second annular projections.

77. (new) A high-performance tyre for a motor vehicle, comprising:
a carcass; and
a tread band;

wherein the carcass comprises a crown portion and two axially opposite sides terminating in beads for mounting the tyre on a corresponding rim,

wherein the carcass comprises at least one carcass ply,

wherein the tread band is disposed on the crown portion of the carcass,

wherein the tread band comprises a pattern, comprising:

a central region;

first and second shoulder regions; and

first and second circumferential grooves;

wherein the first circumferential groove divides the first shoulder region from the central region,

wherein the second circumferential groove divides the central region from the second shoulder region,

wherein the first shoulder region comprises first shoulder blocks, separated from each other by first transverse grooves, but joined to each other along axially inner ends of the first shoulder blocks by a first circumferential portion,

wherein the central region comprises rows of central blocks,

wherein the second shoulder region comprises second shoulder blocks, separated from each other by second transverse grooves, but joined to each other along axially inner ends of the second shoulder blocks by a second circumferential portion,

wherein the first circumferential portion forms an axially outer lateral wall of the first circumferential groove,

wherein the second circumferential portion forms an axially outer lateral wall of the second circumferential groove,

wherein the axially outer lateral wall of at least one of the first and second circumferential grooves has a profile, in a radial plane, that is inclined more with respect to a centerline axis of the respective circumferential groove than a profile of a facing lateral wall of the respective circumferential groove, and

wherein the blocks in one or more of the rows of central blocks are separated from each other by transverse grooves having a bottom wall with an inclined profile decreasing towards one of the first and second circumferential grooves.